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 SNM-33, Amendment No. 1

Combustion Engineering, Inc.
 ATTN: Mr. H. E. Eskridge, Supervisor
 Nuclear Licensing, Safety and
 Accountability
 P. O. Box 107
 Hematite, Missouri 63047

PRINCIPAL STAFF	
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Gentlemen:

In accordance with your application dated February 29, 1984, and pursuant to Title 10, Code of Federal Regulations, Part 70, Condition 19 of Materials License No. SNM-33 is hereby amended to read as follows:

- The licensee shall decommission the evaporation ponds as soon as reasonably achievable. On or before May 30, 1984, the licensee shall submit a proposed decommissioning plan for NRC approval. The plan shall include decommissioning criteria, a schedule for decommissioning, and a demonstration that the schedule provides for decommissioning as soon as reasonably achievable.

All other conditions of this license shall remain the same.

The review of the environmental monitoring plans required by License Condition Nos. 16 and 18 will be the subject of separate correspondence.

Original Signed by
 Ralph G. Page

R. G. Page, Chief
 Uranium Fuel Licensing Branch
 Division of Fuel Cycle and
 Material Safety, NMSS

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OFFICE	FCUP GHB	FCUF VL	FCUP WTC	FCUF RO			
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70-36

NIS/84/2009



February 29, 1984

Mr. R. G. Page, Chief
Uranium Fuel Licensing Branch
Division of Fuel Cycle and Material Safety, NMSS
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

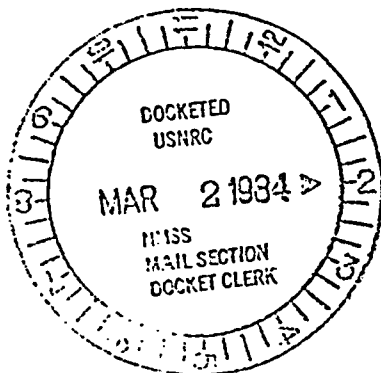
Docket No. 70-36

Dear Mr. Page:

Enclosed is the proposed plan for environmental monitoring of spent lime-stone used as onsite fill material and for alpha-contaminated material stored onsite. This plan is required by license conditions nos. 16 and 18 of SNM-33, as renewed.

As discussed with Mr. George Bidinger of your staff, engineering evaluations are still in progress on subsequent phases of the evaporation ponds decommissioning project. Thus, we hereby request a 60 day extension for submission of the plan required by license condition no. 19.

Please advise if there are any questions, or if additional information is required.



/eg

Very truly yours,

COMBUSTION ENGINEERING, INC.

H. E. Eskridge

H. E. Eskridge
Supervisor, Nuclear Licensing,
Safety and Accountability

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PROPOSED MONITORING PROGRAM TO DETERMINE QUANTITY
AND ENVIRONMENTAL EFFECTS OF RADIOACTIVITY ON
SPENT LIMESTONE USED AS ONSITE FILL MATERIAL
AND ON QUARANTINED ALPHA-CONTAMINATED LIMESTONE

COMBUSTION ENGINEERING, INC.

HEMATITE PLANT

MATERIALS LICENSE No. SNM-33

February 29, 1984

1.0 INTRODUCTION

The Combustion Engineering Hematite plant uses limestone rock chips in dry scrubbers to remove hydrogen fluoride from the offgases of the UF_6 to UO_2 conversion process. Limestone chips are partially converted to calcium fluoride in the scrubbers, and are referred to as "spent limestone" after removal from the scrubbers. The spent limestone is held for monitoring with an alpha survey meter, and the containers are tagged for release as fill material if no alpha activity above background levels are detected when surveyed. Spent limestone with detectable activity, but not greater than 1000 dpm/100 cm², is quarantined in an intermediate storage pile at the SE corner of Building 255. Should the activity level exceed 1000 dpm/100 cm², the limestone is sealed in a 55-gal. drum for shipment to licensed burial.

The spent limestone handling procedure outlined above was initiated in September 1979, when NRC permission was obtained to use spent limestone with no detectable alpha activity as onsite fill material. This material has been used as fill at two locations on site. One area is north of the site pond and the second area is approximately 100 yards east of the fenced manufacturing area. Prior to September 1979, all spent limestone with contamination levels below 1000 dpm/100 cm² was accumulated in a pile located in the SE corner of the fenced area (separated from the intermediate storage area for "quarantined" material by a roadway). See Figures II. 1-3 and 4 of the SNM-33 renewal application. The majority of the pre-1979 material had no detectable alpha contamination.

2.0 PURPOSE

The purpose of this proposed monitoring program is to determine the quantity of radioactivity associated with each of the four spent limestone piles, and to assess possible environmental effects (if any) from such radioactivity on spent limestone used as fill material.

2.0 CONTINUED

A further purpose is to determine the course of action to be taken in disposal of the "quarantined" and pre-1979 material in accordance with NRC guidelines, and to develop a schedule for this disposal.

3.0 PROPOSED MONITORING PROGRAM

Determination of quantity of radioactivity - Samples will be taken to determine the total activity in each pile and to characterize the activity distribution within the pile. Sampling locations will be selected by superimposing a 5 ft. X 5 ft. horizontal grid pattern on the two fill material piles and pre-1979 material pile and a 2 ft. X 2 ft. grid pattern on the quarantined material pile. A representative sample will be obtained from each grid cell. Samples will be crushed, blended and counted for gross alpha and gross beta activity. Specific calibration for the Tc-99 beta energy will be used. A depth activity profile at one-foot intervals will be taken at the center of each pile, except that 3 depth profiles will be taken on the quarantined material. Surface dust from the quarantined material will also be analyzed for gross alpha activity. Surface dust samples will be obtained by taking additional samples from each of the grid cells. These samples will be combined into 3 composite samples, screened, blended and then counted.

Soil sampling - Soil samples will be collected quarterly at the downhill edge of the spent limestone used as fill material at both locations. These samples will be composited separately for each location and analyzed for gross beta and gross alpha activity. A depth profile of activity will be obtained should an activity level of 5 times normal soil background be exceeded.

3.0 CONTINUED

Water sampling - Initial solubility test results indicated that Tc-99 present in the spent limestone is bound in a relatively insoluble form. Also, the high volume of runoff water would be expected to dilute any soluble or suspended activity to background levels. Therefore, no expansion of the existing site and environmental water monitoring program is considered necessary.

Air sampling - A 24-hr. high-volume air sample will be collected quarterly in the vicinity of the quarantined and pre-1979 spent limestone piles. These samples will be taken during periods when the wind is in the right direction to minimize collection of activity from normal exhaust stack emissions.

4.0 PROGRAM IMPLEMENTATION SCHEDULE

The proposed monitoring program, as outlined above, will be implemented within 60 days of receipt of NRC approval.

Disposal of the quarantined and pre-1979 spent limestone is planned to be accomplished during the dry period this year (late summer to early fall) in accordance with NRC guidelines for disposal of materials contaminated with enriched uranium. Initial sampling results for alpha contamination indicate that the majority of this material will be under the 30 pCi/gram limit, and that the 250 pCi/gram limit will not be exceeded. Thus, onsite disposal should be premissible. Should, however, any material be found to exceed the 2500 pCi/gram limit, it will be promptly containerized and stored for shipment to licensed burial.

Adherence to the 1984 dry period disposal schedule is, of course, contingent upon obtaining NRC approval of the planned disposal method in time to make the necessary contractor arrangements. It is proposed that air sampling be discontinued when this material is disposed of, and that soil sampling at fill material locations be discontinued after a period of 2 years should sampling data show no significant activity migration is occurring.